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DISCUSSION PAPER

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SEARCHING FOR AN ALTERNATIVE TO THE GST

by

Neil Brooks

February 1990

Studies in Social Policy
275 Slater Street, 5th Floor
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SEARCHING FOR AN ALTERNATIVE TO THE GST

by

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for

The Institute for Research on Public Policy

February 1990

(edited version)

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Executive Summary

The debate about the proposed goods and services tax (GST) has been hampered by a lack of well articulated and quantified alternatives. This paper attempts to remedy this deficiency by comparing the government's proposed 7 per cent GST with an alternative reform that would involve repealing the manufacturers' sales tax (MST) and collecting most of the lost revenue by simply increasing income tax rates. The paper shows that the alternative approach satisfies the primary goals of the government's sales tax reform while avoiding the deficiencies of the GST. The overall conclusion is that the proposed alternative, or a refinement of it, should be seriously considered by the government and debated by the public before proceeding with the GST reform.

The main elements of the income tax alternative to the GST are as follows:

- Eliminate the MST and the associated Federal Sales Tax Credit.
- Increase federal income taxes by increasing the surtax. This would increase the bottom federal tax rate from 17.9 per cent to 20.6 per cent; the middle rate from 27.3 per cent to 31.5 per cent; and the top rate from 30.5 per cent to 35.1 per cent.
- Increase tobacco, alcohol, and gas excise taxes to maintain prices on these commodities at current levels.
- Increase government revenues from corporations by $2 billion to recover part of the windfall gain to corporations resulting from repeal of the MST.

The main results of introducing the alternative would be as follows:

- Revenue neutrality is maintained.
- Distortions and competitive disadvantages of the existing MST are removed.
- Administration and compliance costs of federal tax collections are reduced substantially, for both government and business, especially small business.
- The general sales tax base is left to the provinces.
- The federal tax system is fairer and more progressive. In particular, under the income tax alternative, the after-tax income of middle-income families, e.g., in the $30,000 to $35,000 income range, would be about $270 greater than under the GST reforms, while the after-tax income of families in the over-$100,000 income range would decline by about $300. That is to say, under the income tax alternative low-income families would be paying less total federal tax and high-income families would be paying more.
- Inflation decreases by about 2 percentage points, reducing pressure on interest rates and on government debt servicing costs.

The argument for the GST so far is that we have no choice. This study suggests that there are alternatives and there is a choice to be made.

Sommaire

Le débat entourant le projet de la taxe sur les produits et services (T.P.S.) a été gêné par le manque important de solutions de rechange articulées et quantifiées convenablement. Cette étude tente de remédier à cette situation en comparant la taxe de 7 % proposée par le Gouvernement avec une réforme différente qui impliquerait l'abolition de l'actuelle taxe fédérale sur les ventes des fabricants (T.F.V.F.) et la récupération d'une grande part des impôts ainsi perdus par une simple augmentation des taux d'impôt sur le revenu. L'étude montre que cette dernière solution rejoint les principaux objectifs de la réforme fiscale établis par le Gouvernement, tout en évitant les inconvénients de la T.P.S.

Les principaux éléments de la solution proposée ici sont les suivants :

- Abolir la T.F.V.F. et les crédits d'impôt correspondants.
- Augmenter les impôts fédéraux sur le revenu en rehaussant la surtaxe. Cela élèverait le niveau inférieur du taux d'imposition de 17,9 % à 20,6 %, le niveau moyen de 27,3 % à 31,5 % et le niveau supérieur de 30,5 % à 35,1 %.
- Augmenter les taxes sur le tabac, l'alcool et l'essence, de façon à maintenir les prix de ces produits à leurs niveaux actuels.
- Augmenter de 2 milliards de dollars les revenus du gouvernement provenant des entreprises commerciales afin de récupérer une partie des gains de ces entreprises résultant de l'abolition de la T.F.V.F.

Les principales conséquences de cette solution sont les suivantes :

- La somme totale des recettes fiscales demeure inchangée.
- Les distorsions et les désavantages concurrentiels de l'actuelle T.F.V.F. sont éliminés.
- Les frais d'administration et de réglementation reliés à la perception des impôts et taxes fédérales sont réduits de façon substantielle, autant pour le gouvernement que pour les entreprises, et en particulier pour les petites entreprises.
- La taxe de vente générale est laissée aux provinces.
- Le système de taxation fédéral devient plus équitable et plus progressif. En particulier, le revenu net des familles à revenu moyen (disons de 30 000 $ à 35 000 $) serait d'environ 270 $ plus élevé que celui des mêmes familles soumises aux conditions de la T.P.S., alors que celui des familles dont le revenu annuel dépasse 100 000 $ baisserait d'environ 300 $. En fait, cela implique que, selon la solution proposée, les familles à faibles revenus paieraient moins de taxes fédérales au total, tandis que celles à hauts revenus en paieraient davantage.
- Les prix à la consommation chutent d'environ 2 %, réduisant ainsi la pression sur les taux d'intérêt et sur les coûts du service de la dette fédérale.

Le principal argument en faveur de la T.P.S., jusqu'à maintenant, est de dire que nous n'avons pas le choix. Or, cette étude montre qu'il existe d'autres solutions et qu'il est possible de faire un choix.

Searching for an Alternative to the GST

The implementation of the government's proposed goods and services tax (GST) has engendered more public discussion and debate than any proposed tax change in Canada's history. The intensity of the public discussion is well founded. The proposed tax reforms will mark a fundamental change in the direction of the federal governments tax mix. Tax mix changes refer to changes in the relative amounts of revenue the government collects from different tax bases.

Until recently, the federal sales tax has been a declining percentage of federal tax revenues. Table 1 shows that the share of revenue obtained from the federal sales tax (the tax is applied to a manufacturer's sale price and is therefore commonly referred to as the manufacturers' sales tax (MST)), which was more than 16 per cent in 1965, fell to 14 per cent by 1970 and to slightly more than 12 per cent by 1985. The relative importance of the income tax, by contrast, has grown steadily from approximately 29 per cent in 1965 to more than 46 per cent in 1985.

Table 1

Share of Federal Budgetary Revenue Obtained From Major Taxes for Selected Years

	1965	1970	1975	1980	1985
Individual income tax	29.3	37.1	41.7	44.0	46.2
Corporate income tax	21.2	21.2	17.2	17.4	14.8
Manufacturers' sales tax	16.8	13.9	13.8	11.7	12.2

Source: Canadian Tax Foundation, *The National Finances* (Toronto: Canadian Tax Foundation, annual), for selected years.

The increase in the share of revenue obtained from the income tax, particularly in the late sixties and early seventies, reflects, in part, the fact that since the income tax was not indexed for inflation, even individuals whose incomes were increasing only at the rate of inflation were being pushed into higher rate brackets. Also, throughout much of this period, personal incomes were increasing in real terms. Corporate tax revenues have been a declining share of federal revenues, in part because of the introduction of numerous tax incentives in the 1970s to offset the effects of inflation on corporate income and to provide targeted assistance to various regions and sectors in the economy. The share of revenues from the manufacturers' sales tax declined from 1965 to 1980 largely because of a narrowing of the base—during this period the tax was removed from a number of commodities such as clothing, footwear, and candy and confectionary—and cuts in the rates—for example, in 1978 the general rate was cut from 12 to 9 per cent. These changes in the sales tax were intended to provide a non-inflationary stimulus to consumer demand.

These changes in the tax mix—in particular the increased reliance on the income tax and decreasing reliance on the manufacturers' sales tax—can be explained in terms of the general economic conditions of the times. However, they were supported by the political environment. In 1967, the *Royal Commission on Taxation*, which was hailed around the world as a landmark in taxation, concluded that, because the tax burden could be distributed more equitably through the use of the income tax than the sales tax, more reliance should be placed upon it. Indeed, the

Commission concluded that the federal government should eventually abandon the sales tax field to the provinces. Following the public debate on the Commission's report, the association of the income tax with a fair tax system was widely accepted by Canadians.

This long-term trend in the tax mix has been gradually reversed in the last few years. Since 1984, the amount of corporate tax paid in real terms has increased by 21 per cent, personal income taxes by 46 per cent, and consumption taxes by 67 per cent. This increased reliance on consumption taxes will become even more pronounced in 1991 when, if the GST is enacted, an additional $1.1 billion will be raised through the federal sales tax. Moreover, not only will the enactment of the GST consolidate recent increases in the share of federal taxes collected through consumption taxes, but it will also result in a tax structure that will lend itself to, if not encourage, further increases in the share of federal revenues collected through consumption taxes. Although the GST will only be 7 per cent when introduced, many tax analysts argue that, to take maximum advantage of the administrative machinery that must be put in place in both the private and the public sector to administer the tax, the rate should be over 10 per cent. Most countries that have introduced such a tax have soon afterwards increased its rate to as high as 18 to 23 per cent. New Zealand, which three years ago introduced a goods and services tax similar to the one the Canadian government is proposing (indeed upon which the proposed Canadian tax is patterned), recently increased its rate from 9 per cent to 12.5 per cent.

Still, in spite of this important shift in the mix of federal government taxes from income to consumption, and in spite of the wide-ranging public discussion of the reforms, the distributive effects of the tax changes are not well understood by most people. Moreover, virtually no information is available that can be used to evaluate alternatives to the GST. The government has insisted that to be taken seriously critics of the tax must be prepared to offer alternatives; however, the public has been provided with very little information upon which to offer and evaluate alternatives.

The government's central proposal is to repeal the MST and replace it with a GST. The two main characteristics of the GST that distinguish it from the MST are that (1) whereas the MST is levied only on manufacturers, the GST is a multi-stage tax that will be levied at every level of the production and distribution process and (2) whereas the MST is levied only on manufactured goods, the GST will be levied on practically all goods and services. However, if the MST is repealed, enacting a new GST is not the only or necessarily the best way to recover the lost revenue. The most straightforward alternative would be simply to increase income tax rates. Somewhat surprisingly, this alternative has not been widely considered. Perhaps most people think that not enough revenue could be raised through the income tax without making the rates "uncompetitive". The most important conclusion of this paper is that a relatively modest increase in income tax rates could raise the required revenue. This change would not only avoid all the administrative and compliance costs of introducing a new tax, eliminate the adverse macroeconomic effects of increasing taxes on consumption, and resolve a difficult problem of federal-provincial relations, but would also increase the overall fairness of the tax system.

The purpose of this brief working paper, then, is to provide some information on the GST and this possible income tax alternative to it. The most important aspect of any tax change is the answer to the question "who gains, who loses?". Therefore, this aspect of the GST reforms and the alternative will be emphasized.

This paper is divided into three parts and an appendix. The first part briefly describes the GST reforms. One section of this part examines the need to abolish the MST, another describes the various elements of the GST reforms, and a third section analyses the effect of substituting a 7 per cent GST for the MST on the prices of more than 40 goods in various expenditure categories. The second part of the paper describes the income tax alternative to the GST and examines the effect of such a change on consumer prices. The third and final part compares these two tax reform alternatives. It is divided into two major sections. The first section reviews the seven main

arguments that have been offered in favour of changing the tax mix from income to consumption and the four main arguments that have been made in favour of even greater reliance on the income tax. The second section compares the distributional effects of the GST reforms and the income tax alternative. The conclusion suggests that the government's obligation to justify the enactment of a new tax, the GST, instead of collecting the revenues needed to offset the repeal of the MST through the income tax, has not been discharged.

The analysis of the aggregate and distributional effects of the GST and an income tax alternative is based upon a database and computer model developed by Statistics Canada, called the Social Policy Simulation Database and Model (SPSD/M). An appendix contains some technical detail relating to the SPSD/M. The choices of parameters, assumptions, and projections, together with the interpretation of the results, are the responsibility of the author.

Part I The Proposed GST Reforms

1. The Need for Reform: Abolishing the MST

At present, the federal government's sales tax, the MST, is levied on the manufacturer's selling price for domestic goods and the duty-paid value for imported manufactured goods. The current rates are 19 per cent for tobacco and alcohol, 9 per cent for construction materials, and 13.5 per cent for other manufactured goods. The tax is invisible at the retail level, so many Canadians are not even aware that, in effect, they pay the tax whenever they purchase manufactured goods. Yet if the MST were to remain in place, the government estimates the tax would raise $18.5 billion in revenue in 1991.

The need for introducing the GST, or for making any change in the basic structure of the federal tax system, has arisen because of problems with the MST. These problems have been known for a long time, and at least since the 1967 *Report of the Royal Commission on Taxation*, but particularly in the last 15 years, tax analysts and government officials have discussed intensively the need to repeal the tax. During this time, the government has released numerous reports outlining the shortcomings of the tax. These flaws include the following: (1) because the MST is imposed on many business inputs, the tax can have a cascading effect, substantially increasing the effective tax on some goods; (2) the tax varies greatly as a percentage of the retail price of goods since mark-ups beyond the manufacturer's level vary from product to product; (3) imported goods are favoured over domestically produced ones since for most imported goods the costs of advertising, warranting, warehousing, and transportation are incurred after the good is imported; (4) the tax is complex and notoriously difficult to enforce fairly since firms attempt to shift as many aspects of their business as they can beyond the manufacturer's level; (5) since it is imposed on all goods including exports, Canadian firms exporting abroad are at a competitive disadvantage compared to foreign firms whose goods do not bear such a tax; and finally, (6) the tax base is very narrow—in particular it does not include services, even though services are an increasing percentage of value-added in Canada, most of the good jobs are in manufacturing not services, and high-income individuals tend to spend a larger percentage of their income on services than low-income individuals.

Numerous attempts have been made to fix up the MST, including shifting the taxation of particular goods to the wholesale level, using notional values where the normal distribution pattern for goods excludes the wholesale level, and ignoring marketing companies that are related to manufacturing companies when assessing the tax. However, none of these attempts has been particularly successful. It is now widely agreed that the tax is beyond repair and should be repealed.

2. Elements and Overall Fiscal Impact of the GST Reforms

The major element of the GST reforms is, of course, the abolition of the MST and the implementation of the GST. However, there are a number of other elements to the government's GST reforms, and each is important in understanding the total distributional effects. Each will be described briefly.

(a) Eliminate the MST - Implement the GST

In the year that it is proposed that the MST be abolished, 1991, the government estimates the tax would raise about $18.5 billion of revenue. Therefore, the GST reforms must raise at least this amount of revenue. However, even if the GST were designed simply to raise the same amount of revenue as the MST, the burden on Canadian consumers would be substantially increased.

Using the input-output analysis associated with the SPSD/M, it is estimated that about $1.5 billion of the MST is imposed on manufactured goods that are exported. In addition, about $3.2 billion of the MST falls on business investments in construction and machinery. Under the GST all exports and business inputs will be freed of tax. On balance, it is estimated that Canadian consumers would pay almost $4.7 billion more in tax even if the GST were simply substituted for the MST and the same amount of revenue collected.

The increased taxes levied on consumer goods sold in Canada under the GST will result, the government estimates, in prices increasing by about 1.25 per cent. This price increase will result, in turn, in the increase of government transfer payments that are indexed for inflation. It will impose additional hardships on low-income Canadians since their cost of living will increase. The government estimates that offsetting these effects, including administering the new tax, will cost an additional $2.9 billion. Thus, under the GST reforms the government must raise $21.4 billion ($18.5 billion to replace the revenues lost by repealing the MST, plus $2.9 billion to cover the consequential offsets).

(b) Enhanced Sales Tax Credit

To protect low-income Canadians from the increase in the price of consumer goods, as a major offset to enacting the GST, the government proposes to increase the refundable sales tax credit. This enriched refundable sales tax credit (the GST credit), will be set at $190 per adult (the existing refundable sales tax credit will pay $140 in 1990) and $100 per child (up from $70 in 1990). The threshold, that is, the income level at which the credit will begin to be reduced, will be set at $24,800 in 1991 (up from $18,000 in 1990). The GST credit will be reduced by five cents for every dollar of income the recipient earns above the $24,800 threshold. To compensate them for the fact that they face higher living costs than couples with the same incomes because they have to maintain a separate household, single parents and adults will be able to claim an additional credit. This "single person's supplement" will be 2 per cent of net income above $6,175, reaching a maximum $100 at a net income of $13,175. In the words of the *Technical Paper on the Goods and Services Tax*, the purpose of this complex formula is to ensure that the single person's supplement is targeted to "lower-income working or retired singles who maintain their own households and are not dependent on parents or other supporting persons." Single parents will be able to claim the adult rate for one of their children ($190 instead of $100). The government estimates that the cost of enhancing the sales tax credit will be $1.2 billion.

(c) Housing Rebate

To protect middle-income house buyers from the increase in house prices, the government is proposing to provide a GST housing rebate, costing $0.2 billion. The rebate will be set at 2.5 percentage points of tax on newly-constructed residential dwellings costing up to $350,000. The rebate will be phased out for houses priced over $350,000 until it is completely eliminated for houses costing $450,000 or more.

(d) Indexation Effects

In assessing the cost of the changes and their effect on different families, the effect of the price increase on transfer payments must be considered. Some federal government transfer payments are indexed for price increases. Old Age Security payments are fully indexed for inflation, while other transfer payments like family allowances and credits delivered through the tax system are indexed for inflation above 3 per cent. In the year the GST reforms take effect, inflation will likely be above 3 per cent; consequently, to the extent that the GST reforms affect prices, all individuals who receive indexed transfer payments will receive larger payments. This will both impose a larger cost on the government and ameliorate the effect of the GST on these individuals. The government has estimated that the increased transfers to individuals and the decreased tax revenues because of indexation effects resulting from the GST reforms will cost about $0.9 billion. Apart from any possible effects of the current budget freeze, transfers to the provinces, which are also indexed, will increase by $0.2 billion.

(e) Administration Costs

The government estimates that the GST will cost about $0.2 billion more to administer than the MST. Estimates of the number of people required to administer the complex provisions of the proposed GST vary, but recent reports mention the hiring of an additional 3,900 employees in the Department of National Revenue (with at least as many undoubtedly to be hired by the private sector). In addition, thousands of new taxpayers, mostly small businesses, will be created.

(f) Other Tax Increases

Including all the offsets, the government estimates that in order to abolish the MST and replace it with a revenue-neutral GST, it will have to raise $21.4 billion in revenues. It proposes to make up this revenue primarily through the 7 per cent GST. This new tax is estimated to raise $19.6 billion. The other $1.8 billion will be raised through miscellaneous sources, reflecting no doubt a political judgement about what is acceptable: the capital tax on large corporations will be increased—$0.2 billion; the income tax surtax will be increased—$0.2 billion; the excise taxes on cigarettes, tobacco and fuel will be increased to offset the decline in revenues resulting from switching from a 19 per cent rate at the manufacturers' level to a 7 per cent rate at the retail level—$0.7 billion; and, government expenditures will be cut—$0.7 billion.

Table 2 compares the Finance Department's estimates of the federal fiscal gains and losses of the GST reforms with those calculated using the database and model underlying the analysis in this paper. The estimates are not quite the same because of modelling differences; however the fact that the estimates are so remarkably close gives one confidence that the issues addressed here are fundamental questions of principle and design, not accidents of computational technique or underlying data.

3. The Shift in the Tax Burden on Particular Consumption Goods and Services Resulting from the GST Reforms

The government estimates that as a result of the GST reforms the consumer price index will increase by 1.25 per cent. However, the burden of the MST varies enormously across goods depending upon how much of the tax falls on business inputs used in manufacturing the good and how much value is added to the good after the manufacturer's level. Moreover, the GST will apply to many goods and services not taxed under the MST. Therefore, replacing the MST with the GST will substantially shift the tax burden among various consumption goods and services.

Table 2

GST Reform: Estimated Federal Fiscal Gains and Losses
Comparison of Department of Finance and SPSD/M
(in billions of 1991 dollars)

	SPSD/M	FINANCE
REVENUE LOSSES		
Tax Decreases		
Eliminate the MST	18.6	18.5
Expenditure Increases		
Enhanced Sales Tax Credit	1.2	1.2
Housing Rebate	0.6	0.4
Indexation Effects		
Personal Income Tax and Transfers to Persons	0.7	0.9
Transfers to Provinces*	0.2	0.2
Administrative Costs*	0.2	0.2
Expenditure Increases (total)	2.9	2.9
Total Revenue Loss	**21.5**	**21.4**
REVENUE GAINS		
Implement GST	19.9	19.6
Increase Corporation Tax*	0.2	0.2
Increase High-Income Surtax	0.2	0.2
Increase Excise Taxes & Duties	0.8	0.7
Decrease Government Expenditures*	0.7	0.7
Total Revenue Gain	**21.8**	**21.4**
Price Impact (Change in the CPI)	1.29%	1.25%

* Estimated.

The input-output model associated with the SPSD/M was used to estimate the shift in effective tax burden for the 40 personal expenditure categories, as well as for the remaining final demand in other sectors (see Table 3). Column 4 of Table 3 shows the net increase or decrease of federal tax revenues for each consumer expenditure category, taking into account the proposed federal excise tax changes, the repeal of the 13.5 per cent MST, and the implementation of the 7 per cent GST; column 5 shows the consequential changes to provincial sales tax revenue because of the change in retail prices resulting from the shifting federal tax burden; and column 7 shows the expected percentage price impact for each consumer expenditure category.*

* The price effects do not include any 'inflationary spiral' effects that may result from individuals attempting to protect themselves from price increases through collective bargaining and so on. In fact, these price effects assume no behavioural response on the part of any economic agents. The estimates are based on the simple 'cost-push' assumptions normally used in input-output analysis. See the technical appendix for more details.

Table 3

Net Change in Tax Revenues (in millions of 1991 dollars) and Resultant Price Impacts Resulting from GST reform By Final Demand Category

		Federal Excise (1)	Federal GST (2)	Federal MST (3)	Federal Change (4)	Prov. Change (5)	Total Change (6)	Price Change(%) (7)
1	food and non-alcoholic beverages	2	527	-789	-260	18	-242	-0.48
2	alcoholic beverages	274	528	-849	-47	-120	-167	-1.66
3	tobacco products	224	282	-507	-1	1	0	0.01
4	men's and boy's clothing	0	537	-54	483	23	506	6.02
5	women's and children's clothing	0	759	-99	660	32	692	5.80
6	footwear and shoe repair	0	230	-20	210	8	218	6.10
7	gross imputed rents	0	253	-91	162	0	162	0.31
8	gross rent paid	1	614	-120	495	1	496	2.49
9	other lodging	0	43	-9	34	0	34	2.34
10	electricity	0	517	-22	495	16	511	6.46
11	natural gas	0	181	-11	170	0	170	4.90
12	other fuels	0	255	-47	208	0	208	5.18
13	furniture, carpets and floor covering	0	344	-496	-152	-4	-156	-2.55
14	durable household appliances	0	345	-420	-75	6	-69	-1.17
15	semi-durable household furn. and supplies	0	612	-719	-107	7	-100	-0.94
16	non-durable household supplies	0	494	-463	26	9	35	0.42
17	laundry and dry cleaning services	0	63	-10	53	0	53	4.52
18	domestic and child care services	0	86	-14	72	0	72	2.04
19	other household services	0	61	-9	52	1	53	4.38
20	medical care	0	103	-68	35	0	35	0.41
21	hospital care and the like	0	25	-16	9	0	9	0.43
22	other medical care expenses	0	25	-5	20	0	20	2.34
23	drugs and sundries	0	0	-125	-125	11	-114	-2.19
24	new and used (net) motor vehicles	0	1141	-1582	-441	18	-423	-2.15
25	motor vehicle repairs and parts	0	442	-250	192	20	212	2.64
26	motor fuels and lubricants	341	669	-1010	0	1	1	0.01
27	other auto-related services	0	125	-25	100	2	102	3.54
28	purchased transportation	0	523	-166	357	1	358	4.41
29	communications	0	445	-470	-25	-2	-27	-0.37
30	recreation, sports and camping equipment	0	804	-935	-131	17	-114	-0.81
31	reading and entertainment supplies	0	428	-268	160	11	171	2.48
32	recreational services	1	492	-91	401	7	408	4.46
33	education and cultural services	0	144	-76	68	0	68	0.58
34	jewellery, watches and repairs	0	146	-150	-4	3	-1	-0.04
35	toilet articles, cosmetics	0	206	-230	-24	2	-22	-0.60
36	personal care	0	169	-27	142	0	142	4.51
37	restaurants and hotels	1	1636	-158	1339	97	1436	5.76
38	financial, legal and other services	1	569	-107	463	1	464	2.62
39	operating expenses non-profit orgn.	0	79	-80	-1	0	-1	-0.00
40	housing constr. and real estate comm.	1	1327	-946	382	-3	379	1.04
Sub-total Household Sector		845	16089	-11539	5395	184	5579	1.29
41	total fixed capital formation	2	1133	-4007	-2872	57	-2815	-2.83
42	federal govt current expense on g&s	1	871	-621	251	0	251	0.69
43	other govt current expense on g&s	2	509	-870	-359	10	-349	-0.28
44	exports	4	0	-1490	-1486	10	-1476	-0.74
45	inventories	0	698	-35	663	0	663	-0.36
Sub-total Other Final Demand Sectors		9	3211	-7023	-3803	77	-3726	-1.38
TOTAL		854	19300	-18562	1592	261	1853	0.36

Some of the price changes that are expected to result if the GST is enacted are highlighted in the following notes on Table 3.

Food and non-alcoholic beverages (row 1). The price of food is exempt under both the MST and the GST. However, because of two offsetting effects the price of food should drop by about 0.5 per cent. Food embodies a tax of $789 million under the MST because, although the manufacture of food itself is exempt, many of the manufactured business inputs in food production (e.g., tin cans) are taxed. These business inputs will be freed of tax under the GST. However, the food exemption under the GST is defined more narrowly than under the MST. Soft drinks and similar beverages, candies and confections, and snack foods will all be taxed under the GST. The tax on these food items, $527 million, will not quite equal the MST on business inputs in food production. Therefore, the price of food and non-alcoholic beverages should decline marginally.

Alcohol and tobacco (rows 2 and 3). The price of these products should remain unchanged. Under the MST, alcohol and tobacco are taxed at a rate of 19 per cent. This rate will be reduced to 7 per cent under the GST; however, since the GST will be levied on the price of these products after all provincial special products taxes, mark-ups and similar levies have been imposed, almost as much revenue will be collected under the GST as is collected on these products under the MST. The shortfall, $274 million for alcoholic beverages and $224 for tobacco products, will be made up by increasing the excise taxes on these products. The provinces will lose about $120 million in revenue because of these changes; however, most provinces will undoubtedly increase their profits on the sale of alcoholic beverages on these products to make up the difference.

Drugs and sundries (row 23). Drugs will bear no GST, but since the business inputs of drugs were taxed under the MST, the price of drugs should drop by slightly over 2 per cent.

Clothing and footwear (rows 4-7). About $1,353 million of additional federal tax will be levied on these products, increasing the prices by about 6 per cent.

Utilities (rows 10-12). Utilities like electricity, natural gas and other fuels were virtually exempt from tax under the MST. The GST burden of $953 million on these utilities should increase the price of these products by 5 to 6 per cent.

Home furnishings (rows 13-15). The 7 per cent GST levied at the retail level will collect slightly less from these products than the 13.5 per cent MST. Prices should drop by about 2.5 per cent for furniture and carpets, 1.2 per cent for appliances, and less than 1 per cent for other home furnishing and supplies.

Motor vehicles (rows 24 and 25). The MST collects substantially more revenue from new motor vehicles than will the 7 per cent GST. However, in addition to new cars, the GST will be imposed on the commercial sale of used cars. Overall, the price of automobiles should drop by over 2 per cent. Since the GST will be levied on services as well as parts, the price of motor vehicle repairs and parts should increase by 2.6 per cent.

Transportation (row 28). About $358 million of additional tax will be collected from transportation services. The price should rise by about 4.4 per cent.

Reading and entertainment supplies (row 31). The GST will increase the tax imposed on books and entertainment supplies by about $160 million. This will result in a price increase of approximately 2.5 per cent.

Recreational services (row 32). Since the GST applies to all services, the price of recreational services such as movies and sporting events will increase in price by approximately 4.5 per cent.

Restaurants and hotels (row 37). Restaurant meals and hotel services bear very little tax under the MST. The $1,496 million of tax that will be raised from these services should raise their prices by about 5.8 per cent.

Housing construction (row 40). New housing construction bears a significant burden of MST at present; however, the GST (including the proposed housing rebate) will increase the tax burden by $382 million. This should increase the price of new houses by slightly over 1 per cent. (This price increase is somewhat understated since the phase-out of the housing rebate is not accounted for in this analysis.)

In addition to changes in tax revenues collected on various consumer expenditure categories, Table 3 also shows the effect of replacing the MST with a GST on other sectors of final demand.

Fixed capital formation (row 41). Over $4 billion of the MST falls directly or indirectly on fixed capital formation on both the government and the business sector. The GST, because that part of it that falls on all business inputs will be refunded, will not be levied at all on capital investment in the private sector. However, governments will continue to bear the sales tax that is levied on capital investments. The GST will collect about $1 1 billion from the tax on capital investments purchased by governments.

Government current expenditures on goods and services (rows 42 and 43). Governments will continue to bear the federal sales tax on their current expenditures for private goods and services. Under the GST, the federal government will bear about $250 million less in federal sales tax on current expenditures; provincial and local governments will bear about $360 million more.

Exports (row 44). Canadian manufactured goods that are exported bear indirectly about $1.5 billion of the MST. Under the GST the tax that has been levied on a good or service will be completely refunded if the product is exported. Hence, no revenue under the GST will be collected on exports.

Part II An Income Tax Alternative

1. Elements of an Income Tax Alternative

Compared to the proposed GST reforms, the income tax alternative is straightforward. The MST would be abolished, and most of the lost revenue would be collected through the income tax by increasing the income tax rates. This increase in federal income tax rates would be done simply by increasing the federal surtax rate in order to leave provincial income tax revenues unaffected. If the MST were abolished, and no consumption tax substituted for it, only approximately $10.5 billion would have to be raised through the income tax. The calculation by which this amount is obtained is illustrated in Table 4.

- In 1991 the MST would raise $18.5 billion in tax revenues. However, if it is abolished, provincial revenues would also decline by about $0.8 billion. Provinces levy their retail sales taxes on the price of goods which includes the MST. If the MST is abolished, the price of goods will drop and thus provincial sales tax revenues will decline. Thus for the change to be revenue-neutral to all levels of government, $19.3 billion of revenue must be found.

- About $2.3 billion of the MST falls on goods purchased by the government sector. If the MST were abolished, and the reduced taxes reflected in prices, the government sector would need $2.3 billion less in revenue to finance its purchases.

- About $2.3 billion of the MST falls on alcoholic beverages, tobacco products and gasoline. There is little reason for reducing the tax burden on these products; therefore, the relevant excise taxes would be increased to recover this revenue.

- If the MST were abolished, the refundable sales tax credit could be repealed: savings—$0.9 billion.

- If the MST were abolished, and all tax and cost reductions passed on directly through prices, the consumer price index would decline by slightly more than 2 percentage points. This would save the government $1 billion in transfer payments to individuals and the provinces. It would also result in additional income tax collections of $0.2 billion because of reduced tax indexing effects.

- Finally, if the MST were abolished there would be a substantial windfall to corporations. In 1991, over $1 5 billion of the MST would be levied on exports. Since Canadian corporations are price takers in world markets, corporate profits would presumably increase by this amount. Moreover, some large percentage of the MST levied on corporate fixed capital investment likely falls on corporate profits. Therefore, if the MST were abolished, it seems fair to raise the revenue collected through the corporate income tax by $2 billion. This additional revenue from corporations could easily be collected without raising the basic corporate tax rate. The low tax rate for manufacturing and processing credits could be abolished (one of its justifications has always been the additional burden the MST imposes on corporations engaged in manufacturing or processing), other corporate tax incentives might be abolished or loopholes closed, measures might be taken to increase corporate tax compliance, the large corporations tax might be increased, or a minimum corporate tax might be enacted.

Table 4 sets out the various changes that would be involved in abolishing the MST and collecting the lost revenue, in the main, through increasing the income tax.

Table 4

Alternative Reforms: Estimated Federal Fiscal Gains and Losses
(in billions of 1991 dollars)

REVENUE LOSSES	
Eliminate the MST	18.5
Provincial Indirect Tax Effects	0.8
Total Revenue Loss	**19.3**
REVENUE GAINS	
Expenditure Decreases	
Reduced Tax Levied on Government Sector Purchases	2.3
Eliminate Sales Tax Credit	0.9
Indexation Effects	
Personal Income Tax and Transfers to Persons	0.8
Reduced Transfers to Provinces*	0.4
Expenditure Decreases (total)	4.4
Tax Increases	
Increase Excise Taxes and Duties	2.3
Increase Corporate Tax	2.0
Increase Income Tax	10.5
Tax Increases (total)	14.8
Total Revenue Gain	**19.2**
Price Impact (Change in the CPI)	-2.27%

* Estimated.

It is difficult to be precise about the income tax rate schedule that a typical Canadian might face if an additional $10.5 billion was collected through the income tax, since basic provincial income tax rates vary enormously and since there is now an array of federal and provincial surtaxes on top of the basic rate schedules. In our alternative scenario, we make the simple assumption that the 3 per cent additional surtax on high-income individuals is eliminated, and that the overall surtax is increased from its 1991 legislated value of 5 per cent to 21 per cent. This change is sufficient to raise the required $10.5 billion of additional revenues. This would increase the bottom federal income tax rate by 2.7 percentage points, the middle rate by 4.2 percentage points, and the top rate by 4.6 percentage points. Those individuals subject to the high-income surtax would have their rate increased by less than 4.6 percentage points, because of the elimination of the 3 per cent additional surtax on high-income individuals.

In 1989, the basic provincial rates, expressed as a percentage of federal tax, were as follows: Alberta - 46.5; British Columbia - 51.5; Manitoba - 52.0; New Brunswick - 60.0; Newfoundland - 61.0; Nova Scotia - 56.5; Ontario - 52.0; Prince Edward Island - 57.0; and, Saskatchewan - 50.0. Quebec administers its own income tax. On the assumption that the basic provincial rate is 55 per cent, and ignoring special federal and provincial surtaxes, Table 5 sets out the federal and

combined federal and provincial rates both under the present system and the income tax alternative.

Table 5

Federal and Combined Federal and Provincial Income Tax Rates: Legislated and Income Tax Alternative

Taxable Income (unindexed)	1991 Legislated (5% federal surtax)		Income Tax Alternative (21% federal surtax)	
	Federal	Combined	Federal	Combined
0-27,500	17.9	27.7	20.6	30.4
27,500-55,000	27.3	42.3	31.5	46.5
55,000 and over	30.5	47.2	35.1	52.0

The changes in income tax rates that would be needed to replace the MST are modest. To make this point a number of things might be noted about the proposed schedule: the highest rate would be about what it was in 1984 when the present government took office; it is more than ten percentage points lower than the rate in 1981; it is more than 30 percentage points lower than it was throughout the 1960s (when Canada experienced its highest rates of growth and lowest unemployment rates); and it is much lower than the average top marginal rate in European countries.

2. The Shift in the Tax Burden on Particular Consumption Goods and Services Resulting from an Income Tax Alternative Reform

If the MST were abolished and the revenue lost collected through the income tax, the consumer price index would decrease by 2.27 per cent as a consequence. This assumes, of course, that manufacturers who pay the MST would pass the tax savings on to consumers if it were abolished. Since this is the assumption that the government is making in proposing the GST reforms, it seems reasonable to make the same assumption for the income tax alternative reform.

Table 6, which uses the same expenditure categories as Table 3, illustrates this price decline for various goods and services. Food would decline in price by 1.6 per cent (row 1); home furnishings would decline in price by around 8 per cent (rows 13-15); motor vehicles would decline in price by over 8 per cent (row 24); jewellery and cosmetics would decline in price by over 6 per cent (rows 34 and 35), and, perhaps most significantly, new housing would decline in price by 2.8 per cent (row 40).

Table 6

**Net Change in Tax Revenues (in millions of 1991 dollars)
and Resultant Price Impacts Resulting from Income Tax Alternative Reform
By Final Demand Category**

		Federal Excise (1)	Federal GST (2)	Federal MST (3)	Federal Change (4)	Prov. Change (5)	Total Change (6)	Price Change(%) (7)
1	food and non-alcoholic beverages	5	0	-789	-784	-15	-799	-1.59
2	alcoholic beverages	778	0	-849	-71	-31	-102	-0.98
3	tobacco products	507	0	-507	0	-1	-1	-0.00
4	men's and boy's clothing	1	0	-54	-53	-4	-57	-0.67
5	women's and children's clothing	1	0	-99	-98	-6	-104	-0.87
6	footwear and shoe repair	0	0	-20	-20	-1	-21	-0.58
7	gross imputed rents	0	0	-91	-91	-6	-97	-0.19
8	gross rent paid	2	0	-120	-118	-6	-124	-0.63
9	other lodging	0	0	-9	-9	0	-9	-0.62
10	electricity	0	0	-22	-22	-2	-24	-0.29
11	natural gas	0	0	-11	-11	-1	-12	-0.33
12	other fuels	0	0	-47	-47	-1	-48	-1.20
13	furniture, carpets and floor covering	0	0	-496	-496	-27	-523	-8.61
14	durable household appliances	0	0	-420	-420	-28	-448	-7.53
15	semi-durable hhld furn. & supplies	1	0	-719	-718	-49	-767	-7.27
16	non-durable household supplies	1	0	-468	-467	-31	-498	-5.92
17	laundry and dry cleaning services	0	0	-10	-10	0	-10	-0.90
18	domestic and child care services	0	0	-14	-14	-1	-15	-0.41
19	other household services	0	0	-9	-9	0	-9	-0.78
20	medical care	0	0	-68	-68	-3	-71	-0.85
21	hospital care and the like	0	0	-16	-16	-1	-17	-0.83
22	other medical care expenses	0	0	-5	-5	0	-5	-0.62
23	drugs and sundries	1	0	-125	-124	-6	-130	-2.52
24	new and used (net) motor vehicles	1	0	-1582	-1581	-134	-1715	-8.73
25	motor vehicle repairs and parts	1	0	-250	-249	-12	-261	-3.26
26	motor fuels and lubricants	1011	0	-1010	1	-2	-1	-0.01
27	other auto-related services	0	0	-25	-25	-1	-26	-0.93
28	purchased transportation	0	0	-166	-166	-4	-170	-2.08
29	communications	0	0	-470	-470	-34	-504	-7.01
30	recreation sports and camping equipment	1	0	-935	-934	-65	-999	-7.17
31	reading and entertainment supplies	1	0	-268	-267	-9	-276	-3.98
32	recreational services	1	0	-91	-90	-5	-95	-1.03
33	education and cultural services	1	0	-76	-75	-3	-78	-0.65
34	jewellery, watches and repairs	0	0	-150	-150	-10	-160	-6.14
35	toilet articles, cosmetics	0	0	-230	-230	-17	-247	-6.85
36	personal care	0	0	-27	-27	-1	-28	-0.90
37	restaurants and hotels	2	0	-158	-156	-16	-172	-0.69
38	financial, legal and other services	2	0	-107	-105	-6	-111	-0.63
39	operating expenses non-profit orgn.	1	0	-80	-79	-3	-82	-0.85
40	housing constr. and real estate comm.	2	0	-946	-944	-58	-1002	-2.76
Sub-total Household Sector		2321	0	-11539	-9218	-600	-9818	-2.27
41	total fixed capital formation	4	0	-4007	-4003	-202	-4205	-4.23
42	federal govt current expense on g&s	4	0	-621	-617	-9	-626	-1.72
43	other govt current expense on g&s	7	0	-870	-863	-36	-899	-0.73
44	exports	11	0	-1490	-1479	-42	-1521	-0.76
45	inventories	0	0	-35	-35	-1	-36	-0.02
Sub-total Other Final Demand Sectors		26	0	-7023	-6997	-290	-7287	-2.69
TOTAL		**2347**	**0**	**-18562**	**-16215**	**-890**	**-17105**	**-2.43**

Part III Comparing the Alternatives

The main purpose of this paper is to compare the distributional consequences of the GST reforms and an income tax alternative. However in spite of, or aside from, the distributional consequences, a number of arguments have been put forward to justify shifting more of the tax burden from income to consumption. To place the distributional consequences of the two alternatives in a wider context, the arguments for or against a tax mix change will be reviewed briefly. The purpose of this review is not to resolve definitively the various issues at stake in this tax mix change, but simply to review the various arguments and to expose their empirical and value assumptions. Obviously there is an enormous literature testing these empirical assumptions and elaborating on these value premises, but none of it is reviewed here. The arguments are reviewed only in enough detail to make the point that there is no compelling *a priori* reason for shifting more of the tax burden from income to consumption that would make the distributional consequences irrelevant. Indeed, on the contrary, there are good reasons, even aside from increased fairness, for shifting more of the tax burden from consumption to income. Section 1 of this part sets out the arguments for and against a tax mix change from income to consumption; section 2 compares in detail the distributional effects of the GST reforms and the income tax alternative.

1. Arguments For and Against a Tax Mix Change from Income to Consumption

(a) Main Arguments for Greater Reliance on Consumption Taxes: Arguments for Replacing the MST with the GST

(i) To Rebalance the Government's Revenue Sources

From 1965 to 1984, the revenue from the manufacturers' sales tax made up a decreasing percentage of total federal government revenues. An argument that is sometimes made for increasing the weight of consumption taxes in the mix of personal taxes is to restore balance in the government's revenue sources. The precise logic of this argument is difficult to discern. Presumably the argument rests on the premise that in 1965, or at some earlier time, the federal government tax mix was "correct" and that the percentage of revenues raised from consumption taxes should be returned to the level it had at that time. But, of course, without more evidence, the opposite premise, namely that the trend away from consumption taxes at the federal level is leading to the optimal tax mix, is just as plausible.

In judging the "correctness" of the tax mix, one of two obvious standards might be used. First, the tax system is one of the policy instruments the government uses in achieving its stabilization, allocation and redistribution objectives; therefore, the tax mix might be evaluated in terms of how effective it renders the tax system as a policy instrument in achieving these objectives. Unfortunately, those who support increasing reliance on consumption taxes have not specified a policy objective that requires a tax mix change. By contrast, those who oppose the shift in the tax mix towards consumption have argued that unless substantial revenues are collected through income tax, the effectiveness of the overall tax system in reducing income disparities will be impaired.

Canada's tax mix might also be judged by international standards. In 1987, according to comparative revenue statistics of member countries compiled by the Organization for Economic Co-operation and Development (OECD), Canada collects 28.9 per cent of total taxes from taxes on goods and services. This is slightly below the OECD average of 30.3 per cent. Canada collects

substantially more in taxes on personal income than most OECD countries: Canada collects 38.7 per cent of total taxes from taxes on personal income; the OECD average is 30.7 per cent. However, when social security contributions, which in most countries are equivalent to a tax on labour income, are added to direct income taxes, Canada's tax burden on personal income is below the OECD average: 52 per cent of Canada's total taxes are collected from both these sources; the OECD average is 55 per cent. Certainly by international standards, Canada's present tax mix does not look out of line. Nor would it be out of line with the tax mix in other countries if substantial revenues were shifted to either income or consumption taxes.

Although this paper is not the place for an in-depth international tax comparison, two further points might be noted in making a judgement about Canada's tax mix by international standards. First, the United States, with whose retailers Canadian retailers must now compete, places very little reliance on general sales taxes. Governments in the United States collect only 16.7 per cent of total taxes from taxes on goods and services. Second, most of the OECD countries that collect more revenue than Canada from regressive consumption taxes also collect some amount of revenue from various forms of wealth taxes that fall exclusively on the very rich. Canada is one of only two OECD countries that does not have a general tax on wealth or wealth transfers.

(ii) To Increase the Fairness of the Tax System

It is commonly asserted that taxes on consumption are unfair: because consumption as a fraction of income declines as income increases, low-income individuals necessarily devote a larger percentage of their income to such a tax than high-income individuals. However, a number of commentators, economists in particular, have suggested that a tax on consumption is in fact fairer than a tax on income.

One equity argument sometimes heard in support of taxes on consumption rests on the notion that it is fairer to tax people on the value of the goods and services they take out of the economy (the goods and services they purchase) than the value of the goods and services they contribute (their salaries). Two points might be noted about this argument. First, although taxing consumption might have the connotation of favouring foresight and thrift, in fact, the ultimate purpose of saving is future consumption, and a sceptic might ask, why should wanting to consume in the future have moral primacy over wanting to consume currently? Second, although the way the argument is normally stated the ethical intuition underlying it is not clear, it seems to depend upon a notion that a consumer is using up something. But, contrary to the implication in the argument, when one consumes goods and services nothing is "taken out" of the economy. The goods and services may be gone, but the price of the goods is now in someone else's hands. Moreover, contrary to the implicit assumption underlying the way the argument is normally stated, saving is not more virtuous than consuming. Consumption is not a claim on community resources. It involves an exchange between private individuals after which both are presumably better off. Both consumption and investment are necessary to support the economy.

In introducing the GST, the government has added a twist to this argument by suggesting it is fairer to tax consumption because people have a choice about whether they will save or consume and thus pay the tax. But for low- or even most middle-income people, the option of saving from income is meaningless. They must spend all their income simply to survive at an adequate standard of living.

A second equity argument frequently made to support a shift from income to consumption taxes is that a tax on consumption in effect taxes people on their total income over their lifetime instead of, as with an income tax, their income as measured over some shorter interval of time, usually a year. Although the argument is technical, basically the proponents of this argument attempt to show first that a consumption tax is more likely than an income tax to collect the same amount of tax from two people with the same lifetime income and then to argue the fairness of that

result. But even accepting the technical argument, although it is not without its difficulties, the fairness aspect of the argument is not persuasive. It has two elements. First, it is alleged that taxing consumption measures long-term well-being better than income. But the notion that only fairness over people's lifetime matters, and not their economic circumstances over relatively shorter periods, has little merit. Given the enormous changes that can occur over a lifetime, brought on by family instability, economic insecurity, political change and other uncertainties, most people understandably make judgements about their relative economic well-being over a much shorter timeframe. Indeed, comparing the economic circumstances of two individuals over a one-year period is hard enough, let alone over a lifetime.

The second element of this equity argument is that because an income tax taxes the return to saving it discriminates between those who choose to consume in the present and those who choose to save and consume in the future. Again, ignoring the technical difficulties with this argument, the fairness intuition that underlies it is tenuous. Income earned from savings is rarely, if ever, simply compensation for deferred consumption. In many cases income from savings will be a mixture of income from property, human capital and luck. A successful investment in a complex, high-risk business venture, for example, frequently requires considerable managerial input as well as a fair measure of luck. Thus to the extent that what is loosely called income from property is really income from human capital and luck, it is not being double-taxed under an income tax. Also, even assuming that income from savings results primarily from the simple owning of property, holding wealth for most people has value not just as delayed consumption but is itself an act of consumption. It provides them with security, social prestige and power. This intangible consumption is preferred by many people over tangible consumption. But under a sales tax this act of consumption is not taxed.

(iii) To Improve Incentives to Work

A shift to consumption taxes, which will allow for a fall in income taxation, will lead to an increase in work effort, it is sometimes argued. With lower average and marginal income tax rates, workers will be willing to work longer hours of overtime, more willing to take on responsibility and risk, and might make different career choices. This argument obviously assumes that tax rates have some effect on the incentive to work. Theoretically, workers who bear a lower tax rate might either work less since they need less income to maintain their existing standard of living, or they might work harder since they are able to earn more after-tax income for each hour worked. The empirical studies done to date are of little assistance in determining which of these offsetting income and substitution effects in fact predominates.

But even aside from this contentious issue, generally, unless workers suffer from some form of fiscal illusion when such a tax mix change is made, shifting the tax burden from income to consumption should have no effect on work incentives. A worker's total effective marginal tax rate does not change if the rate on earnings is lowered but the rate on the goods and services the worker purchases is increased by a corresponding amount. That is to say, workers are left in the same after-tax position whether a tax is collected on their earnings or on the goods and services they consume; therefore, it is difficult to see why their work habits would change in response to such a shift. Moreover, some analysts argue that since a general consumption tax does not have an effect upon income that is saved currently, it is therefore economically equivalent to a tax on wages alone. According to this view, a revenue-neutral switch from an income tax to a consumption tax requires higher effective marginal tax rates on wages, thereby perhaps discouraging work effort.

Finally, even if it could be shown that a tax mix change would cause people to work harder, it is not obvious that this would be a socially desirable result. Unless it can be shown that the level of income taxation has distorted individuals' labour decisions, then providing incentives for them to

choose to work over leisure involves the government in making social judgements that override an individual's own assessment of the welfare he or she gains from working.

(iv) To Improve Incentives to Save

One of the primary arguments that the government has advanced for the goods and services tax is that as a tax on consumption instead of income it will lead to a higher level of private savings, and thus a higher level of capital formation (that is, plant and equipment), and ultimately a higher standard of living for all Canadians. Unfortunately, every link in this chain of argument is open to serious question.

First, there is little evidence that savings are too low in Canada. Certainly by international standards Canada's savings rate is quite high. Moreover, whether collectively a society should save more and consume less is at the end of the day a value judgement. The trade-off implicit in increasing savings means a transfer of consumption from the current generation to subsequent generations. The ethical judgement underlying this trade-off might seem uncontentious, particularly if it is being made by the current generation and if it involves reduced current consumption for those who are otherwise well-off. However, just as likely, the present consumption that is forgone will be that of poor people to whom government transfer payments might be made or that of those who benefit from public health services and education. If it is these latter members of the current generation who are affected by government policy designed to reduce current consumption, then the value judgement becomes more problematic.

Second, even if the social judgement were made that private savings should be increased, it is unlikely that relieving more of the return to savings from tax would have that effect. It is well known in economic theory that a decrease in taxes on income from saving can either increase or decrease savings. Based on the empirical studies, although the magnitude of the effects of tax on savings remains a matter of controversy, the best evidence is that at most it is modest. In particular, since our present income tax already provides substantial incentives for savings, for example by providing tax assistance for saving for retirement, a shift in the tax mix towards greater revenue from the sales tax could at the very best have a marginal effect in increasing personal savings. The argument that a tax mix change can have little effect on savings is supported by the fact that there appears to be no correlation between, for example, the percentage of revenues a country collects in taxes on good and services and its savings rate. Japan, for example, collects a small percentage of its revenues from sales tax and yet has one of the highest rates of private savings. Also, in the United States, somewhat to the embarrassment of economists who argue that there is a strong correlation between after-tax rates of returns and savings, in recent years the savings rate has fallen at the same time that marginal tax rates have been lowered and real interest rates have increased.

Third, even if a tax mix change in favour of consumption increased personal savings somewhat, the effect on total savings in the economy would be trivial since personal savings are only a small percentage of total savings. Moreover, even if the private rate of savings were to increase, it is not clear that investment would increase. To raise domestic productivity, the additional savings would have to result in increased business capital formation in Canada. But in a small, open economy like Canada's, there is likely little connection between domestic savings and domestic investment since domestic interest rates vary directly with international interest rates. If domestic savings increase, domestic interest rates might fall in the short term, but if they fall appreciably below international rates, Canadian investors, faced with a low return on funds at home, will simply invest abroad. Conversely, if domestic demand for savings outstrips supply and interest rates are pushed appreciably higher than international rates, foreign funds will flow into Canada in search of higher returns. Thus, notwithstanding the domestic savings rate, the increasing internationalization of financial markets effectively caps the domestic cost of capital.

Finally, shifting the tax mix from savings to consumption can at best have only an indirect effect on savings. In contrast, reducing budget deficits directly increases net personal savings. Consequently, the main positive effect on savings and growth will come from successfully reducing budget deficits using either the income tax or a new consumption tax.

(v) To Reduce Opportunities for Evading Tax

It is sometimes asserted that a tax mix change would reduce the amount of income that illegally escapes tax. A number of reasons are offered for this result: since marginal income tax rates can be lowered if more of the tax burden is shifted to consumption taxes, the incentive to evade income tax is reduced; a broad-based sales tax is easier to enforce than an income tax; and, if income evades the income tax, if there is a consumption tax at least it will be taxed when it is spent. None of these reasons for suspecting that a tax mix change will reduce the amount of income escaping tax is persuasive.

The claim that high income tax rates lead to increased tax evasion is without theoretical or empirical support. In theory it might appear logical that, since an increase in tax rates increases the gains to evading tax, high tax rates would result in more tax evasion. However, even this simplistic economic model of evasion behaviour ignores the fact that higher tax rates increase the cost of evasion in two ways. First, an increase in the tax rate increases the penalty for evading, since fines are typically proportional to unpaid tax. Second, an increase in the tax rate increases the incentive for the tax department to audit; for a given level of under-reporting, a higher tax rate increases the total tax and penalty collected from an audit. On balance, recent studies have found that the costs of noncompliance associated with an increase in tax rates outweigh the benefits, so that an increase in the tax rate should in theory actually increase compliance. A number of recent empirical studies have failed to find any relationship between tax rates and compliance.

The claim that if there are two somewhat equal tax bases—the income and consumption bases—individuals who are inclined to evade taxes will find it more difficult to evade both instead of just one has a plausible ring to it. However, even if this is the case, the revenue gains would be marginal at best. Self-employed people who evade the income tax will also presumably evade the goods and services tax. Although some sales tax will have been levied on their business inputs it will in many cases not be significant. It seems indisputable that if the government were to devote the additional resources it will use in administering the goods and services tax to increasing compliance with the income tax, much more revenue would be raised from the underground economy.

(vi) To Increase the Export Competitiveness of Canadian Business

A shift in the tax mix from income to consumption has been advocated as a way of increasing Canada's export competitiveness. This argument is presumably premised on the observation that a consumption tax like the GST is imposed on all imports but rebated on all exports. However, this characteristic of the GST cannot encourage exports or finalize imports. Foreign goods that Canadian exports compete with obviously do not bear the Canadian GST. Further, while imports will bear the tax, so will all goods produced in Canada. The point is that, in terms of its effect on a country's trade balance, a consumption tax that is imposed on imports and not exports is equivalent to not having such a tax at all.

A slightly more sophisticated version of this argument suggests that, since an income tax is borne directly by all capital and labour in Canada, and must be reflected in prices, whereas a goods and services tax can be removed from exported goods, raising more revenue through the goods and services tax would increase Canada's export competitiveness by decreasing the income tax burden

on exported goods. But if the tax is lifted from exports, the revenue must be made up, presumably by being levied on domestic goods, and most analysts argue that any increased cost of Canadian goods would be compensated for in the exchange value of the Canadian dollar. That is to say, any improvement in Canada's export competitiveness by changing the tax mix would be offset by an appreciation in the exchange value of the Canadian dollar. This conclusion reflects a widely accepted theorem of international trade, namely, that under certain realistic conditions a general tax on consumption is equivalent to a general tax on production, the only difference being the exchange rate. The only way that a tax mix change can increase Canada's competitive position is if workers are prepared to take a drop in real wages. It has not worked in other countries.

(vii) To Encourage Highly Skilled Canadians to Remain in Canada

If the tax burden is shifted from the income to the consumption tax, the argument goes, then income tax rates can be lowered and highly skilled and paid Canadians will be encouraged to remain in Canada. Even when the question is whether a country should increase its overall tax burden in order to finance public services, the concern about the effect this might have on research scientists, engineers and medical doctors leaving the country is frequently overstated. However, in the context of a tax mix change it has absolutely no validity. International labour movements are not the result of marginal decisions: people either migrate or they do not. Consequently, in deciding whether to migrate, a taxpayer's average effective rate is what is significant, not his or her marginal rate. Although a revenue and distributionally neutral tax change from an income to a consumption base might reduce a taxpayer's marginal tax rate, by definition it will not change the overall amount of tax he or she pays.

(b) Main Arguments for Greater Reliance on Income Taxes: Arguments for Replacing the MST with an Income Tax Alternative

(i) To Reduce the Regressivity of the Tax System

The major criticism of consumption taxes is that they are regressive. Low-income individuals consume a greater percentage of their income than high-income individuals. Consequently, the effective rate of a tax on consumption declines as income increases. This is illustrated in Table 17; column 4 of that table shows that with the GST, federal commodity taxes will be 7.1 per cent of a low-income family's income, but only 3.1 per cent of a high-income family's income. Moreover, a shift in the tax mix from income to consumption shifts the typical taxpayer's burden to different parts of his or her life span. Relying more on consumption taxes burdens people at the stage in their life when they are consuming, not when they are saving. Thus it results in people paying more when they are starting out in life—and borrowing against future income—or when they are old—and drawing down savings. It taxes them less when they are in their peak earning years and are saving. To most people this shift of taxes likely seems illogical and unfair. In effect, the tax burden is shifted away from the time in their life when people have the greatest ability to pay and to the time in their life when they have the least ability to pay.

The government concedes the regressivity of the goods and services tax, but it argues that this regressivity can be offset by refundable sales tax credits for people at the lower income levels. However, there are a number of problems with this attempt to remove the regressivity of the tax. First, the refundable credit can remove the regressivity of the tax only up to the point where the maximum credit is paid. At the point where the credit begins to phase out (at $24,800 under the government's proposal) and beyond the tax remains regressive. Consequently, no matter how generous the credit, middle-income earners will pay a larger percentage of their income in the tax than high-income earners. Again, this can be seen in Table 17; column 5 shows that if the refundable credit is regarded as a direct refund of the GST, federal commodity taxes are progressive

up to the $35,000 to $45,000 family income group, but are regressive over higher income groups. And families in the highest income group still pay less of their income in federal commodity taxes (3.1 per cent) than families in the lowest income group (4.2 per cent). There is no logic to placing the maximum burden of a new tax on people with middle incomes, particularly since studies have shown that they were the ones most adverse[illegible] affected by the 1988 personal income tax reforms.

Second, the proposed refundable sales tax credit is itself inadequate to remove the regressivity of the federal sales tax: (1) The credit does not fully compensate many low-income families for the increase in the sales tax burden they will bear under the GST. Most notably, the credit begins to phase out for many individuals and families living below the poverty line, particularly those living in large cities. (2) Although the credit will fully compensate some low-income individuals for the increased sales tax burden, it does not compensate any low-income individual for the sales tax burden that he or she was paying prior to the enactment of refundable sales tax credits and will continue to pay. (3) As has been noted many times, because the credit is only partially indexed (for inflation over 3 per cent), it will lose its value over time. The National Council of Welfare has estimated that within two years after enactment 100,000 families will lose the credit and by the fifth year 700,000 families will have lost it because inflation will have eroded the real value of the threshold at which it begins to phase out. Even though the goods and services tax will continue to be imposed on the inflationary price of goods, by the fifth year the government will be paying $700 million less to low-income families in removing the regressivity of the tax.

Finally, and perhaps most fundamentally, it does seem strange to impose a tax on low-income individuals and then give them a credit to offset it. For one thing this adds substantial complexity to the tax/transfer system. It imposes additional administrative costs on the government and increases compliance costs for low-income individuals. Claiming the credit not only requires them to make relatively complex computations (similar to computations that many taxpayers make mistakes on in their tax returns), but also requires them to file a significant amount of paperwork. To illustrate the problems with just one aspect of the compensation package, the limited rebate of the GST on lower-priced new housing will result in somewhat different effects in different areas, because of variations in housing prices. In addition, distinguishing between major renovations and minor repairs will lead to endless problems. Most important, the refundable sales tax credit leaves low-income individuals much more vulnerable to political misunderstandings and whim. The credit is highly visible, while the additional GST that low-income individuals pay will tend not to be noticed. This might result in provinces feeling less urgency to maintain the real value of social security payments and the federal government feeling less pressure to enact and enrich other programs to assist low-income individuals.

(ii) To Avoid the Adverse Macroeconomic Effects of Introducing a GST

A good deal of uncertainty surrounds the macroeconomic effects of introducing the GST. Although the government is predicting only a 1.25 per cent rise in the consumer price level, this estimate is based upon a number of highly optimistic assumptions: that manufacturers will pass forward tax reductions, that businesses will not attempt to increase prices to protect themselves from, or take advantage of, uncertainty relating to the effects of the tax, and that labour will be prepared to take a one-time decline in real wage rates. Under an income tax alternative, not only would all these adverse macroeconomic effects of the GST be avoided, but the rate of inflation as measured by the Consumer Price Index would decrease by more than 2 percentage points. This relative price deflation could lead to a decrease in interest rates and thus the deficit.

(iii) To Avoid the Administrative and Compliance Costs of Implementing the GST

Increasing the income tax rates under an income tax alternative would result in almost no increased compliance and administrative costs. Indeed it would result in a substantial saving of administrative and compliance costs since there would no longer be any need to administer and comply with the MST. Implementing the GST, by contrast, will impose substantial costs not only on the government but also on business, especially small business.

The government estimates it will have to triple its sales tax staff to administer the GST. The government originally estimated that the direct cost of implementing the tax would be $0.2 billion a year, but in the recent budget they have increased this estimate to almost $0.4 billion a year.

The GST will require the compliance of almost 13 times as many taxpayers as the MST. Many of these will be small businesses. The additional costs to them of compliance with the tax system will in many cases be large. The tax could severely handicap many small businesses. Furthermore, in calculating the deadweight loss of the GST to the economy, one must include the large number of lawyers and accountants who will be specializing in the GST and advising clients on how to pay and not pay the tax.

(iv) To Rationalize Federal/Provincial Jurisdiction Over Taxes

The GST represents a substantial intrusion of the federal government into tax room traditionally occupied by the provinces. The two levels of government were unable to agree on sharing a common sales tax base; as a result business people will be burdened with the problem of complying with two different types of sales taxes, requiring separate sets of records and duplicate procedures for tax collections, payment and compliance. The prospect of the federal and provincial governments agreeing on how to share a common sales tax base does not look promising. An income tax alternative provides a simple solution to this problem. The general consumption tax base would be left to the provinces.

2. Comparison of Distributional Effects of the GST Reforms and an Income Tax Alternative

The method of comparing the distributional effects of the GST reforms and the income tax alternative is mechanical and relatively straightforward. Using the SPSD/M, the effects of the tax system in 1991 on a representative sample of families at different levels of income was simulated on the assumption that the MST remains in place. The simulation was repeated first on the assumption that the GST reforms were enacted and then on the assumption that the income tax alternative suggested in this paper was enacted instead. The results of these two possible tax reforms being in place in 1991 were then compared with the results of the existing MST being in place in 1991.

The distributional effects of a tax change can be measured in a number of ways. In this paper, in comparing the GST reforms with the income tax alternative, three simple measures are used: (1) the effect the two regimes would have on the average after-tax income of families at different levels of income, (2) the percentage of families at different income levels that would be either gainers or losers under each regime, and (3) the change in the percentage of their income families at different income levels would pay in total federal tax under each regime.

All three measures indicate that the income tax alternative would generally be more progressive than the GST reforms. Under the income tax alternative, although families in the lowest income group would be slightly worse off because of the beneficial effects of the refundable

sales tax credit under the GST reforms, middle-income families would be much better off and high-income families worse off than they would be under the GST reforms.

This section concludes with an overall look at the incidence of the various federal taxes. The incidence of a tax refers to how its burden is distributed among income classes. The income tax is generally progressive over all income classes, although not as progressive as many people probably think it is. By contrast, the GST, even taking into account the refundable sales tax credit, is regressive over most income classes.

Before presenting and discussing the quantitative results, a number of terms and concepts used in the following tables must be defined. All the quantitative results are expressed in 1991 dollars and pertain to the estimated 1991 population. Families are classified into income groups using *total income*, defined here as the sum of wages and salaries, self-employment income, investment income, and government transfers. *Refundable* tax credits are considered to be transfers in defining total income. *Disposable income*, defined as total income less income and payroll taxes, is a familiar concept. Unfortunately, it is not general enough to analyze commodity tax changes, since such changes have no effect whatever on disposable income. The more general concept of *consumable income*, defined as disposable income less commodity taxes embodied in consumption, is used instead. It represents the 'bottom line' that determines whether a family wins or loses under a particular scenario, and by how much. A final point about the tables concerns accuracy. To facilitate comparisons and allow accurate aggregation if desired, the figures are presented in their original unrounded form. This should not be taken to mean that the numbers are felt to be accurate to the number of digits printed.

(a) Changes in Average Consumable Income

Taxpayers would be most concerned about the effect of a tax change on their consumable income. Tables 7 and 8 show the changes that the GST reforms and the income tax alternative would make in the average consumable income of families in each income class, i.e., income after both income and commodity taxes. In the lowest income classes, families are marginally better off under the GST reforms. For example, the average consumable income of households with up to $15,000 of income will be essentially unchanged under the GST reforms but will decline by about $40 under the income tax alternative. The lowest income families are slightly better off under the GST reforms because of the enhancement of the refundable sales tax credit, although these gains will be eroded over time as a consequence of partial indexation. Over the middle-income ranges, families are much better off under the income tax alternative. For example, under the GST reforms, the consumable income of the average family in the $30,000 to $35,000 income class declines by about $140; under the income tax alternative it would increase by this amount. High-income families would be worse off under the income tax alternative. Households with incomes in excess of $100,000 would have their average consumable incomes reduced by about $300 more (the difference between -1308 in Table 7 and -1609 in Table 8) under the income tax alternative than under the GST reforms.

In addition to families in different income classes, it is useful to compare the effect of a tax change on different family types. In Tables 9 and 10 families are divided into eight basic types, and the effect of the GST reforms and the income tax alternative on the consumable income of each family type is shown. Two differences between the alternatives might be noted in particular. Under the income tax alternative, married couples would generally be better off than they would be under the GST reforms. Married couples with no children would on average be about $180 better off under the income tax alternative than under the GST reforms; couples with young children would be about $90 better off. The only family type that is significantly better off under the GST reforms than the income tax alternative is the unattached elderly. Their average consumable income would be about $110 greater under the GST reforms. The explanation for this is that under

the GST reforms elderly individuals receiving OAS payments are, in effect, compensated twice for price increases resulting from the GST: their OAS payments (and GIS if applicable), which are fully indexed, will increase by the amount of any price increase resulting from the GST, and they will also likely qualify for the full amount of the refundable sales tax credit.

Table 7

Estimated Change in Average Family Consumable Income By Income Group: GST Reforms (in 1991 dollars)

Total Income Group	Sales Tax Changes	Credit Changes	Fed. Surtax Changes	Indexation Effects	Net Change
Minimum-15000	-173	120	0	53	1
15001-20000	-252	159	1	74	-18
20001-25000	-308	271	1	80	46
25001-30000	-342	276	1	67	4
30001-35000	-366	155	1	73	-135
35001-40000	-402	81	1	74	-244
40001-45000	-419	48	1	73	-295
45001-50000	-450	41	1	74	-331
50001-60000	-510	33	1	71	-391
60001-75000	-595	39	-1	67	-472
75001-100000	-750	53	-23	72	-631
100001-Maximum	-1227	63	-234	83	-1308
All	-458	108	-18	69	-293

Table 8

Estimated Change in Average Family Consumable Income By Income Group: Income Tax Alternative (in 1991 dollars)

Total Income Group	Sales Tax Changes	Credit Changes	Fed. Surtax Changes	Indexation Effects	Net Change
Minimum-15000	261	-167	-23	-109	-37
15001-20000	413	-212	-120	-121	-39
20001-25000	523	-114	-212	-128	71
25001-30000	591	-57	-352	-72	112
30001-35000	693	-39	-461	-60	136
35001-40000	745	-33	-617	-55	42
40001-45000	823	-27	-771	-53	-25
45001-50000	902	-30	-911	-48	-84
50001-60000	990	-28	-1134	-46	-222
60001-75000	1165	-35	-1473	-43	-387
75001-100000	1427	-45	-1995	-46	-661
100001-Maximum	2401	-55	-3909	-54	-1609
All	858	-83	-934	-73	-232

Table 9

Estimated Change in Average Consumable Income
By Family Type: GST Reforms (in 1991 dollars)

Family Type	Sales Tax Changes	Credit Changes	Fed. Surtax Changes	Indexation Effects	Net Change
Married couple with no children	-534	41	-26	53	-462
Married couple with children under 18	-589	83	-30	79	-444
Married couple with children 18 and over	-761	186	-47	80	-537
Married couple, at least one is elderly	-433	130	-15	154	-156
Single-parent families with children under 18	-374	257	-3	50	-66
Single-parent families with children 18 and over	-560	231	-8	77	-256
Unattached non-elderly individual	-314	99	-7	25	-195
Unattached elderly individual	-249	126	-3	95	-26
All	-458	108	-18	69	-293

Table 10

Estimated Change in Average Consumable Income
By Family Type: Income Tax Alternative (in 1991 dollars)

Family Type	Sales Tax Changes	Credit Changes	Fed. Surtax Changes	Indexation Effects	Net Change
Married couple with no children	1097	-31	-1322	-29	-281
Married couple with children under 18	1167	-63	-1414	-43	-355
Married couple with children 18 and over	1515	-174	-1851	-43	-548
Married couple, at least one is elderly	866	-117	-586	-269	-105
Single-parent families with children under 18	578	-153	-362	-28	35
Single-parent families with children 18 and over	950	-191	-858	-106	-201
Unattached non-elderly individual	503	-63	-563	-18	-139
Unattached elderly individual	359	-111	-189	-195	-134
All	858	-83	-934	-73	-232

(b) Percentage of Gainers and Losers

Examining the percentage of families gaining and losing by income group and type is another straightforward way of comparing two tax alternatives. It provides additional detail underlying changes in average family income. In this paper, gainers are defined as families gaining more than $50 of consumable income, while losers are those losing more than $50. The remainder are classified as unchanged. Tables 11 and 12 show the gainers and losers by family income group. Under the GST reforms, 65 per cent of families are losers, while under the income tax alternative only 61 per cent of families are losers. The main difference between income classes, in terms of gainers and losers, occurs in the middle-income range. For example, under the income tax alternative there are many more winners in the $30,000 to $35,000 income group than under the GST reforms. The same effect can be found in the $40,000 to $45,000 income group.

Table 11

Estimated Percentage of Gainers and Losers By Family Income Group: GST Reforms

Total Income Group	Percentage of Gainers	Percentage of Losers	Percentage Unchanged
Minimum-15000	29.9	23.6	45.7
15001-20000	27.2	34.0	37.9
20001-25000	48.7	24.5	26.2
25001-30000	40.2	37.4	22.0
30001-35000	20.5	66.1	13.2
35001-40000	9.5	81.7	8.8
40001-45000	6.5	89.1	4.3
45001-50000	5.0	91.8	3.2
50001-60000	3.4	94.0	2.7
60001-75000	2.0	95.8	2.2
75001-100000	2.0	96.1	1.8
100001-Maximum	0.9	98.7	0.4
All	17.1	65.0	17.5

Table 12

Estimated Percentage of Gainers and Losers By Family Income Group: Income Tax Alternative

Total Income Group	Percentage of Gainers	Percentage of Losers	Percentage Unchanged
Minimum-15000	19.8	54.6	25.1
15001-20000	24.4	57.2	18.2
20001-25000	39.9	42.8	16.9
25001-30000	44.0	39.0	16.7
30001-35000	47.3	37.0	15.4
35001-40000	36.9	50.9	12.1
40001-45000	32.2	57.7	10.0
45001-50000	30.8	63.7	5.5
50001-60000	24.2	70.6	5.0
60001-75000	21.0	75.4	3.6
75001-100000	15.9	81.7	2.4
100001-Maximum	14.0	84.3	1.7
All	26.8	60.8	12.2

The gainers and losers by family type are consonant with the changes in their average consumable incomes. There are substantially more gainers under the income tax alternative among married couples, and fewer among unattached elderly individuals.

Table 13
Estimated Gainers and Losers
By Family Type: GST Reforms

Family Type	Percentage of Gainers	Percentage of Losers	Percentage Unchanged
Married couple with no children	6.0	86.4	7.5
Married couple with children under 18	11.0	82.0	6.8
Married couple with children 18 and over	9.4	84.2	6.2
Married couple, at least one is elderly	34.8	47.9	17.2
Single-parent families with children under 18	40.3	34.9	24.3
Single-parent families with children 18 and over	21.3	61.1	17.5
Unattached non-elderly individual	10.2	60.0	29.2
Unattached elderly individual	39.7	26.2	33.2
All	17.1	65.0	17.5

Table 14
Estimated Gainers and Losers
By Family Type: Income Tax Alternative

Family Type	Percentage of Gainers	Percentage of Losers	Percentage Unchanged
Married couple with no children	33.3	57.6	9.0
Married couple with children under 18	27.6	64.5	7.8
Married couple with children 18 and over	24.6	69.7	5.6
Married couple, at least one is elderly	33.2	58.2	8.5
Single-parent families with children under 18	42.8	33.5	23.3
Single-parent families with children 18 and over	23.1	69.2	7.7
Unattached non-elderly individual	24.2	55.0	20.4
Unattached elderly individual	13.1	74.5	12.2
All	26.8	60.8	12.2

(c) Change in Percentage of Income Paid in Federal Tax

Finally, the two alternatives might be compared in terms of the changes they would make in the percentage of total income that the average family in each income group would pay in federal tax. Table 15 shows that using this comparison the income tax alternative is more progressive over the entire income range. Families in the lowest income class would see their tax liability increase by about 1.4 percentage points under the GST reforms. Under the income tax alternative, their total federal tax as a percentage of income declines by about 2.0 percentage points. In the middle-income ranges as well (e.g., from $25,000 to $45,000), families would see their taxes increase on average by slightly less than one percentage point of income under the GST reforms. The rate would decline

under the income tax alternative. At the highest income level on Table 15 (families with over $200,000 of income), the average family would see its total federal tax as a percentage of income increase by about 1.0 percentage point under the GST reforms, but by about 1.4 percentage points under the income tax alternative.

Table 15

Comparison of Estimated Overall Federal Tax Rates
By Income Group: MST, GST Reforms, and Income Tax Alternative (per cent)

Total Income Group	Tax Rate MST	Tax Rate GST	Tax Rate Alternative	Difference GST - MST	Difference Alternative-MST
0- 15000	7.72	9.16	5.65	1.44	-2.07
15000- 25000	11.90	12.88	10.75	0.98	-1.15
25000- 35000	15.73	16.62	15.19	0.89	-0.54
35000- 45000	17.84	18.67	17.82	0.83	-0.02
45000- 55000	19.12	19.95	19.41	0.83	0.29
55000- 75000	20.16	20.96	20.78	0.80	0.62
75000-100000	20.71	21.53	21.55	0.82	0.84
100000-200000	21.46	22.31	22.48	0.85	1.02
200000-maximum	22.86	23.87	24.30	1.01	1.44

Those who support the GST reforms might argue that this comparison gives a misleading impression of the two alternatives since under the GST reforms the refundable sales tax credit should be treated as a refund of taxes, not as a transfer payment (as it is in the above analysis). Table 16 shows that although this changes the comparison somewhat, particularly at the lowest income levels, middle-income taxpayers still pay a smaller percentage of their income in total federal taxes under the income tax alternative than under the GST reforms, and higher-income individuals pay more.

Table 16

Comparison of Estimated Overall Federal Tax Rates
(treating the refundable sales tax credit as a refund of taxes)
By Income Group: MST, GST Reforms, and Income Tax Alternative (per cent)

Total Income Group	Tax Rate MST	Tax Rate GST	Tax Rate Alternative	Difference GST - MST	Difference Alternative-MST
0-15000	6.11	6.43	5.65	.32	-.46
15000- 25000	11.15	11.19	10.75	.04	-.40
25000- 35000	15.59	15.88	15.19	.29	-.40
35000- 45000	17.78	18.47	17.82	.69	.04
45000- 55000	19.08	19.84	19.41	.76	.33
55000- 75000	20.12	20.87	20.78	.75	.66
75000-100000	20.67	21.44	21.55	.77	.88
100000-200000	21.43	22.24	22.48	.81	1.05
200000-maximum	22.85	23.85	24.30	1.00	1.45

(d) Incidence of Federal Taxes

Examining the percentage of their income that different income classes pay in tax is the most common way of assessing the fairness of a tax. Table 17 shows the incidence of various federal taxes. Column 3 shows the incidence of all federal commodity taxes including the MST, were it to remain in place in 1991. Like all consumption taxes it is clearly regressive: families with incomes under $15,000 would pay 5.5 per cent of their income in federal commodity taxes, while families with incomes over $200,000 would pay only 2.4 per cent of their income in federal commodity taxes. If the GST is enacted, federal commodity taxes will be even more regressive: column 4 shows that families with incomes under $15,000 would pay 7.1 per cent of their income in federal commodity taxes, while families with incomes over $200,000 would pay only 3.1 per cent. Although the GST refundable tax credit would reduce the regressivity of federal commodity taxes, particularly over the low-income ranges, column 5 shows that middle-income families and even low-income families would still be paying a larger percentage of their income in federal commodity taxes than high-income families.

Table 17
1991 Incidence of Various Federal Taxes
By Family Income Group

Income Range	Percentage of Families (1)	Percentage of total Income (2)	Commodity Taxes (MST) (3)	Commodity Taxes (GST) (4)	Commodity Taxes (GST-Credit) (5)	Commodity Taxes (Income Tax Alternative) (6)	Payroll and Recovery Taxes (7)	Income Tax (GST) (8)	Income Tax (Alternative) (9)
0- 15000	19.3	4.0	5.5	7.1	4.2	3.1	0.7	1.3	1.8
15000- 25000	15.1	6.4	5.2	6.5	4.6	3.6	1.6	4.8	6.0
25000- 35000	12.2	7.9	4.7	5.8	4.9	2.6	2.7	8.2	9.8
35000- 45000	11.5	9.7	4.2	5.2	5.0	2.4	2.8	10.6	12.6
45000- 55000	10.4	11.0	4.0	4.9	4.8	2.2	2.8	12.2	14.3
55000- 75000	14.8	20.3	3.6	4.5	4.4	2.0	2.9	13.5	15.8
75000-100000	9.5	17.3	3.2	4.1	4.0	1.7	2.9	14.5	16.9
100000-200000	6.2	16.8	3.1	3.9	3.8	1.6	2.3	16.8	18.5
200000-maximum	0.9	6.6	2.4	3.1	3.1	1.2	0.9	19.8	22.8

Columns 8 and 9 of Table 17 show the percentage of their income that families in each income class would pay in income tax if the GST reforms were enacted and if the income tax alternative set out in this paper were enacted. The income tax is clearly progressive. Low-income families pay only 1 to 2 per cent of their income in federal income taxes; middle-income families, e.g., in the $45,000 to $55,000 income class, pay about 12 to 14 per cent of their income in federal income tax; and high-income families, those with incomes in excess of $200,000, for example, pay around 20 per cent of their income in federal income tax. If the income tax alternative were enacted, families would obviously pay more income tax than if the GST reforms were enacted: the income tax paid by low-income families would increase by about 1 percentage point of income, the income tax paid by those in the middle-income classes would increase by about 2 percentage points, and those in the highest income groups would see their income taxes increase by about 3 percentage points.

In addition to the incidence of federal taxes, Table 17 also gives an indication of the inequality in the pre-tax distribution of income. For example, from columns 1 and 2 it can be seen that the 1

per cent of families with the highest incomes receives a larger share of national income than the bottom 20 per cent, indeed more than one and one-half times as much. The top 15 per cent of families receive about the same amount of national income as the bottom 75 per cent.

In spite of this large disparity in pre-tax income, the federal tax system does little to redistribute income. Indeed, the most striking observation about the distribution of the total federal tax burden is that over a large range of income it is almost flat. For example, from Table 16 it can be seen that if the GST is enacted, the average family in the $35,000 to $45,000 income range—which is below the average Canadian family income—would pay 18.4 per cent of their income in federal taxes. Families with over $200,000 of income would pay only about 5 percentage points more of their income in federal taxes, namely 23.8 per cent.

Revitalizing the Income Tax

The objective of this discussion paper is to present an alternative to the GST. Many Canadians are concerned that the introduction of a GST will have adverse macroeconomic effects; that it will impose substantial compliance costs on the private sector, in particular small business; and that it will give the federal government a vastly expanded and lucrative new regressive fiscal instrument with which to raise substantial amounts of revenue. The major conclusion of this paper is that simply increasing income tax rates is a viable alternative to the GST.

The paper shows that only $10.5 billion would have to be raised from the personal income tax if the MST were completely repealed, provided the burden of tax on alcohol, cigarettes and motor fuel remained unchanged and $2 billion of additional revenue was collected from corporations to make up for some of the windfall gain they would experience from the abolition of the MST. This $10.5 billion could be collected through the income tax by a relatively modest increase in the three federal income tax rates. To preserve the degree of progressivity in the present federal income tax rate structure, all three rates could be increased by the same percentage. In this study the starting value of the federal surtax rate is the 1991 legislated value of 5 per cent. This rate would have to be increased to 21 per cent to collect the additional $10.5 billion. This would result in the bottom federal rate being increased by about 2.7 percentage points (from 17.9 per cent to 20.6 per cent); the middle rate being increased by 4.2 percentage points (from 27.3 per cent to 31.5 per cent); and the top rate being increased by 4.6 percentage points (from 30.5 per cent to 35.1 per cent).

There are a number of ways of expressing the magnitude of the income tax increase that this would impose on families. Table 8 shows that a family in the $35,000 to $40,000 income group would have their income taxes increased by $617 under the income tax alternative over what they would pay if the MST remained in place. (They would of course pay $745 less in MST.) Table 17 shows that they would pay about 2 percentage points more in federal income tax: under the GST reforms, federal income tax would be about 10.6 per cent of their income; under the income tax alternative it would be about 12.6 per cent. Finally, the proposed income tax alternative would increase their total income tax burden by about 10 per cent.

Even with the repeal of the refundable sales tax credit, this alternative would be more progressive than the GST reforms. Low-income households would pay less federal tax; high-income individuals would pay more. However, the largest beneficiaries of such a change would be middle-income Canadians. For example, the average consumable income of families in the $30,000 to $35,000 class would be about $270 greater under the income tax alternative than under the GST reforms.

In addition to reducing considerably the administrative and compliance costs of the federal tax system and making it fairer, the income tax alternative has two further advantages over the proposed GST reforms. First, it would result in a drop in prices of over 2 per cent. This would reduce inflation and hence interest rates and could be expected to increase consumer demand and create employment. Most significantly, the decline in interest rates would result in a lowering of the federal deficit. Second, it would resolve what promises to be a constant source of controversy between the federal and provincial governments, namely, how the sales tax base should be shared between them. It would leave this source of revenue entirely to the provinces.

The income tax alternative proposed in this paper is not intended as a blueprint for reform, but is intended simply to illustrate that if the MST were abolished, collecting the revenue from the income tax instead of the GST would be a viable alternative. If the government wished to make the alternative more progressive, two or three additional rate brackets could easily be added to the present three rate brackets. Moreover, in spite of the base-broadening reforms in 1987, the present

income tax base is still full of loopholes. For example, if the government were to abolish the business meals and entertainment deduction, the lifetime capital gains exemption, the dividend tax credit and numerous other tax measures for which many people think there is little justification, billions more could be raised in revenue and the tax system made even more equitable, efficient and simple. Further, as a complement to these reforms, if the government were to enact a wealth transfer tax, an additional $2 billion could easily be collected every year from Canada's wealthiest families. Income tax rates would then not have to be raised even as much as suggested in this paper.

Other changes in the tax/transfer system might be enacted if the income tax alternative were adopted. For example, many non-attached elderly will benefit more under the GST reforms than under the income tax alternative. Under the GST reforms, elderly individuals whose income comes substantially from OAS payments will receive a double benefit. Their OAS payments will be fully indexed for the increase in prices caused by the GST and they will receive the refundable tax credit. However, if the intention is to increase transfers to the elderly, then a much more direct way of doing so under the income tax alternative would be simply to increase GIS payments.

With one or two exceptions, the implementation of the GST has provoked more controversy than virtually any other government policy initiative. In light of the many criticisms of the measure and concerns expressed about it, to justify enactment of the GST, it should be necessary for the government to show that the additional revenues could not be obtained more satisfactorily from the income tax. This paper concludes that this burden of argument has not been discharged.

Technical Appendix

This Appendix briefly describes the underlying models and assumptions implicit in this study. The sections that follow include short descriptions of the Social Policy Simulation Database/Model (SPSD/M), the associated Input-Output (I-O) model, and some necessary concepts and definitions used in the body of this work.

If readers are interested in greater detail concerning the database creation and model algorithm construction they should consult M. Bordt et al., "The Social Policy Database and Model: An Integrated Tool for Tax/Transfer Policy Analysis", *Canadian Tax Journal* (in press). For a general purpose guide to Input-Output modelling, the Statistics Canada publication number 15-510, "The Input-Output Structure of the Canadian Economy", is an excellent source.

1. The Input-Output Model

The Input-Output model used in this study is one of a family of such models that together constitute the body of techniques known as Input-Output analysis. The specific I-O model used in this study enables the reallocation of sales and excise taxes levied on goods and services used in the production process to the final demand sectors (i.e., personal and government current expenditures, investment, exports) in which they are directly or indirectly embodied. For example, automobiles are composed of tires, windows, metals, etc., which are composed of more basic goods (ores, rubbers, sand, energy). If a large sales tax were applied to industrial rubber products, I-O methods could determine what share of this tax would find its way into the selling price of tires and, ultimately, the cost of the automobile. In this Appendix, taxes levied on production will be termed "indirect" taxes, whereas taxes levied explicitly on final demand products (such as tobacco taxes) are termed "direct" taxes.

The application of these techniques assumes that the entirety of the incremental costs associated with production (such as an increase in sales tax) is passed along the production chain and fully borne by the final demand product. This is known as the cost-push assumption.

The model employs the 1984 National Input-Output tables with special detailed tax margins as the data source for this analysis. These data are consistent with other data sources in the System of National Accounts (SNA), yet provide greater detail on commodity supply/disposition within the Canadian economy.

Through the study of budget documentation and the GST technical papers, the adjustment of these tax margins has been accomplished to replicate the 1991 tax incidence as it would be under both the proposed GST and the existing MST. These new adjusted tax margin tables become input parameters to the I-O model. Executing the I-O model produces the indirect plus direct tax incidence of the final demand categories. These results are shown in Tables 3 and 6 of the paper. Note that underlying both analyses is the 1984 production structure.

The price change column of Tables 3 and 6 assume no behavioural response on the part of firms that see the relative price of their inputs change with the amendments to the tax margins. In fact, the analysis assumes that the economic behaviour of producers for both the GST and the MST scenario is that which was observed in 1984. Therefore, the price changes described here are conditioned solely on the accounting of the total tax incidence on the final demand sectors. The price changes are defined as the ratio of the tax-inclusive price of each final demand sector for the

GST scenario, divided by the tax-inclusive price of the MST system, were it to exist in 1991. The income tax alternative price changes are also expressed relative to the 1991 MST estimate.

Once the reallocation of indirect taxes to final demand categories has been modelled in each scenario, an effective sales tax rate for final demand goods and services can be calculated. The application of these rates to the households of the Social Policy Simulation Database allows an estimate of the level of commodity tax paid by each family in Canada, given the household's disposable income.

2. The Social Policy Simulation Database/Model (SPSD/M)

The SPSD/M is a microcomputer-based tool designed to analyze the financial interactions of governments and individuals in Canada. It can assess the cost implications or income redistributive effects of changes in the personal taxation and cash transfer system. As the name implies, SPSD/M consists of two parts: a database (SPSD) and a model (SPSM).

(a) The SPSD

The SPSD is a non-confidential, statistically representative database of individuals in their family context, with enough information on each individual to compute taxes paid and cash transfers received from governments. For example, the model version for 1986 consists of 170,000 individuals within 60,000 households.

Historically, the data collected on individuals and households by statistical surveys or administrative sources have been for specific purposes; as a result, no single data source exists that provides the detail necessary for integrated tax/transfer studies. An ideal database would require detailed information on individuals' income sources, tax outlays, and expenditure patterns, along with demographic characteristics, for the range of the Canadian population. This ideal database would suffer from two drawbacks. First, it would be very expensive for government agencies to construct and, second, it would be confidential—making it inaccessible to a variety of potential analysts. The SPSD has been designed to fill this void by combining data on individuals from different sources in a statistically significant way to create a non-confidential (albeit synthetic) alternative to the ideal database.

The SPSD draws data on individuals and families from four major sources. Statistics Canada's Survey of Consumer Finances (SCF) and Survey of Family Expenditures (FAMEX) provide detailed information on income sources and family expenditures respectively. Weaknesses in these surveys have been compensated by adding information from two administrative data sets. A sample of personal income tax returns from Revenue Canada and a sample of unemployment insurance claimants from Employment and Immigration Canada compensate for the lack of information on high-income earners and UI claimants inherent in the Statistics Canada surveys.

A variety of statistical imputation and randomization techniques are necessary in the database construction. For more information on these methods see the reference on the SPSD/M cited at the beginning of the Appendix.

(b) The SPSM

The SPSM is a collection of computer algorithms (or computer programs) that calculate the annual cash inflows and outflows for each record on the SPSD. These algorithms often correspond directly to a governmental program that can apply to either the individual or the family context. For

example, the family allowance algorithm examines the demographic characteristics and income sources for each family and computes the annual baby bonus benefit it would receive.

In addition the SPSM, in effect, simulates the equivalent of filing a tax return for each individual on the SPSD. This involves the interaction of over 30 tax-related variables for each observation. The SPSM simulates over 20 separate money transfer programs, of which 11 are targeted to the elderly population, 5 are child-related benefits, and the rest are of a general nature. Therefore, the SPSM determines the net flows between individuals in the SPSD and governments in a strict accounting context.

The SPSM does not simulate behavioural responses to changes in real income or consumption. Therefore, if under a certain scenario families making under $25,000 in annual income were to receive a $5,000 bonus, the model would assume that their pattern of expenditures on goods and services would remain unchanged. It would further assume that their rate of savings would also be unchanged.

In summary, the SPSM can calculate the taxes paid and transfers received by individuals or families at the finest level of disaggregation possible. This provides a way to decompose and evaluate the complex interactions of net cash flows. For more information on the model details, see the reference on the SPSD/M cited at the beginning of the Appendix.

3. Notes on the Family Expenditure Data

The application of effective sales tax rates generated from the I-O model to the expenditure microdata on the SPSD (FAMEX) can give rise to some inconsistencies in coverage and definition. Some internal adjustments have been made to the rates to account for these discrepancies.

The FAMEX coverage of high-income families is sufficient when examining the top 10 per cent, but breaks down for the very rich. For example, the family with the highest income on the FAMEX has an annual income of about $250,000. As the FAMEX is the only source of expenditure patterns on the SPSD, these families are most often matched with SCF observations whose income could be 40 times greater. When the sales tax incidence is estimated, the FAMEX expenditure on consumer items plus savings is boosted to meet that of the SCF total income. This in effect conserves the expenditure pattern of the FAMEX household.

If the marginal propensities to consume vary greatly for households whose incomes exceed the richest FAMEX observations, then some errors in the sales tax incidence could be made. Recall that this is a problem for only a handful of families in a database of 60,000 observations.

4. Some Definitions Found in the Analytical Tables

Tables 7 through 10 use changes in average consumable income as one instrument in comparing the GST to the income tax alternative scenario. Disposable income is defined as total income less income and payroll taxes. Consumable income, which is a more inclusive concept designed to allow comparisons inclusive of sales tax effects, is defined as disposable income less the sales and excise taxes associated with consumption. This measure provides a useful 'bottom line' for comparisons of sales tax alternatives. These changes in consumable income are relative to the MST system in 1991 for census families in a specific income group or family category.

Subsequent tables make reference to 'gainers' and 'losers' under different reforms. The gain or loss is with respect to the MST system as it would pertain in 1991. A 'gainer' is defined as a census family whose consumable income would increase by more than $50. The 'no change' families have an increase or decrease in consumable income that is less than the $50 limit.

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